From: Ballew, Mary
To: Casey, Carolyn
Subject: discussion of summary tables USM
Date: Friday, December 21, 2018 1:05:28 PM

Hi Carolyn—
This is for your information and you can decide if you want to make comments to USM about this.
Mary
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Table 12
Usually in a risk assessment, the risks would be those provided in Column 2. Whether one chooses a child care scenario or a residential scenario, all of the risks for all of the suites are within the EPA cancer risk range. However, in situations where there are sensitive receptors such as children, the disabled, or the elderly, and based on site specific situations, EPA may choose to be protective for the lower end of the risk range. All of the risks exceed EPA's point of departure of one I in a million.

One cannot quantitate the effect of background based on the data presented here. The maximum background contaminants measured were summed to make the background risk of $7x10^{-6}$ for childcare and $2x10^{-5}$ for the residential scenario. That is basically a single high data point and does not represent the typical long tern exposure to background. EPA would not subtract the outdoor background risk from the site risk given the exposure situation at this site. Much of the text implies that this is what one should do. Or that one should disregard the site risk because in some cases it is not that much higher than the outdoor air risk of $2\ x10^{-5}$ for the residential scenario. (I am not clear if these are the highest air concentrations for each chemical from one sampling event or the highest air concentrations for each chemical over multiple sampling events.)

Regarding the Hazard Quotients, the HQ for the residential scenario for Suite 135C is typically one where EPA may choose to take corrective action. The contaminants are naphthalene and isopropanol which we have seen before.

For the most part, including the non-detects in the risk calculations did not make much difference (Tables 12 and 13). The biggest impact was from 1,2-dibromoethane which was showing up as a non-detect in USM's sampling. Similar chemicals, such as 1,2-dichloroethane and bromodichloromethane were detected. Ideally they should look to see if 1,2-dichloroethane or bromodichloromethane caused interferences in the detection of 1,2-dibromoethane. They should see if there is some way to improve the detection of 1,2-dibromoethane.

For the Hazard Quotients calculated using DEP risk values for hydrocarbon chains (tables 12 and 13), overall they were similar to the EPA calculations based on individual hydrocarbons. Suite 135 C still had HQs that are of concern. Under DEP's methods, Suite 171X also showed HQs of some concern under the residential scenario.